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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,787	03/04/2004	Mi Xiaoyu	040089	5333
23850	7590	10/25/2006	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP 1725 K STREET, NW SUITE 1000 WASHINGTON, DC 20006			TAMAI, KARL I	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 10/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/791,787

Applicant(s)

XIAOYU ET AL.

Examiner

Tamai I.E. Karl

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-8,11,12 and 14-23 is/are pending in the application.
- 4a) Of the above claim(s) 2,11,12 and 14-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-8,13 and 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restriction

1. This application contains claims 2, 11, 12, and 14-18 drawn to an invention nonelected with traverse in Paper dated 12/28/2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 13, and 21 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tsuboi et al. (Tsuboi)(US 2003/0007262). Tsuboi teaches an oscillating mirror plate 114 supported by the torsion spring 251 on the axis of the oscillation and pairs of spring bars 252 spaced from each other and located away from the axis of oscillation.

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4. Claims 1, 3, 13, and 21 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hurst et al. (Hurst)(US 6360035). Hurst teaches an oscillating mirror plate 420 supported by torsion bars 310 and spaced plate springs 50 on frame 408a.

5. The rejection of Claims 1, 3, and 13 under 35 U.S.C. 102(e) over Arima (2003/0053186) is withdrawn.

6. The rejection of Claims 1, 3, and 13 under 35 U.S.C. 102(b) over Minamoto and Tokuda are withdrawn.

7. The rejection of Claims 1, 3, and 13 under 35 U.S.C. 102(e) over Murakami is withdrawn.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 3, 6, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst in further view of Arima (US 6882455). Hurst teaches every aspect of the invention except the springs 50 being plate springs with holes. Arima teaches the springs 214 being plate springs with holes to prevent abnormal deformation of the elastic member and to avoid deterioration of the springs as taught by Arima. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Hurst with the plate springs of Arima to prevent abnormal deformation of the elastic member and to avoid deterioration of the springs.

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst in further view of Yasuda et al. (Yasuda)(US 6831765). Hurst teaches every aspect of the invention except the torsion bar having a cross shaped cross section. Yasuda teaches the torsion bar having a cross shaped cross section to provide good strength and stability. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Hurst with the torsion bar having a cross shaped cross section to have good strength and stability as taught by Yasuda.

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12. Claims 6 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst in further view of Knipe et al. (Knipe)(US 5739941). Hurst teaches every aspect of the invention except the springs spaced farther at the frame and progressively reduce towards the oscillating section and a hole in the springs. Knipe teaches the equivalence of the springs being parallel (figure 3) or progressively getting closer near the oscillating member (figure 4) with a hole in the spring. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Hurst with the springs spaced farther at the frame and progressively reduce towards the oscillating section to increase the spring force as taught by Knipe, and because it is within the ordinary skill in the art to choose between known equivalents.

13. Claims 7, 8, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst in further view of Tokuda (JP 2002214560). Hurst teaches every aspect of the invention except the thickness and width of the springs being larger at the frame and oscillating section than an intermediate portion or non-constant. Tokuda teaches springs non-constant thickness (fig. 16) and width (fig. 13) and being larger at the frame and oscillating section than an intermediate portion. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Hurst with the thickness of the springs being non-constant in width and thickness and larger at the frame and oscillating section than an intermediate portion as in Tokuda to prevent damage to actuator from impacts.

Allowable Subject Matter

14. Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

15. Applicant's arguments with respect to claims 1, 3, and 13 have been considered but are moot in view of the new grounds of rejection. Applicant's argument regarding the restriction is not persuasive. The four non-elected inventions clearly constitute a substantial burden upon the examiner to search and consider separate and distinct features of the invention, such as an actuator to drive the oscillation of the oscillating section, an oscillating section within a main and second frame, oscillators having torsion springs, oscillators having base springs, or oscillators having plate springs.

Conclusion

16. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (571) 272 - 2036.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg, can be reached at (571) 272 - 2044. The facsimile number for the Group is (571) 273 - 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl I Tamai
PRIMARY PATENT EXAMINER
October 20, 2006

KARL TAMAI
PRIMARY EXAMINER

